

**FIG. I**

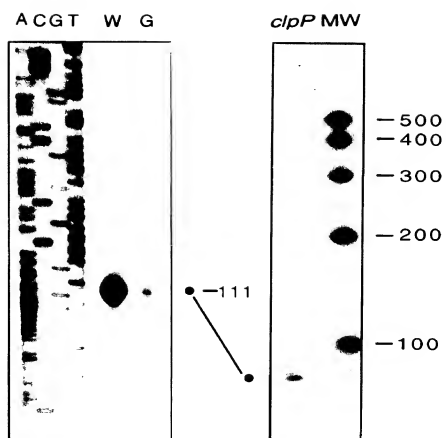


FIG. 2A

FIG. 2B

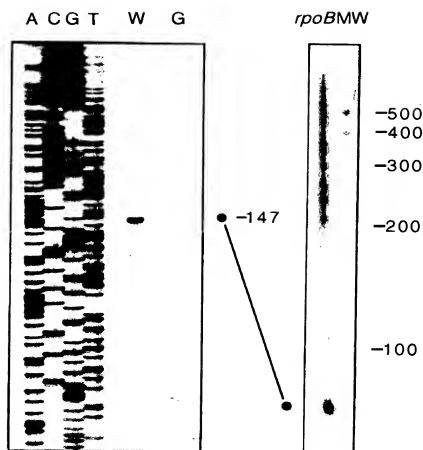


FIG. 3A

FIG. 3B

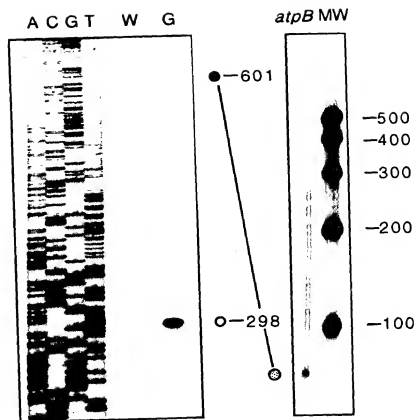


FIG. 4A

FIG. 4B

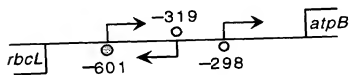


FIG. 4C

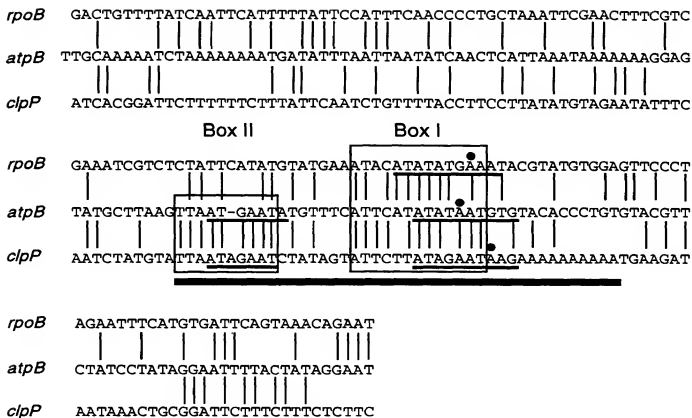


FIG. 5A



FIG. 5B

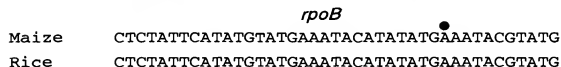


FIG. 5C

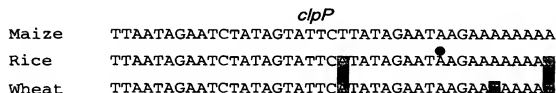
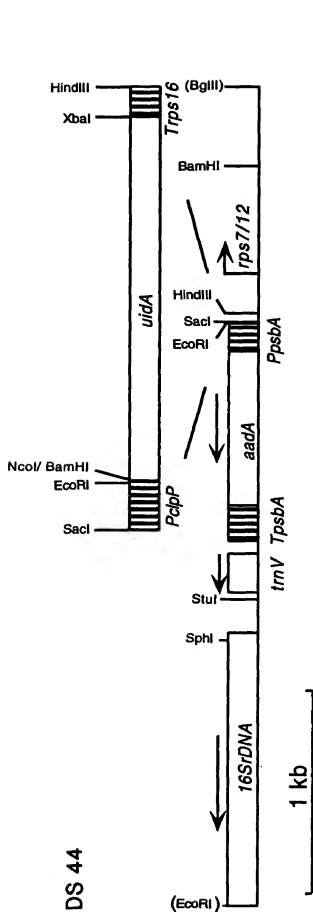


FIG 5D

*Os* TCGAATCACC-----ATTCTTTTTCCTTTATTCAAATCTATATGTTATATTTCAATCTACGTACTTT  
 |||||  
*Nt* TAGAAGACCTATTTCGTAATAATTGAGTTTATTCATTCAGTCTT-----TCCT-----TATGAAATTTTATATCTATGGATAA  
 |||||  
 -173  
  
*Os* AATGACATCTATAGTATTTCATATAGAAATAGAGAAAAACGTGAAAAACAATAAACTGCGGATCTCTTTCTCTTCCATCTTACGTTTCCATATTAAAG  
 |||||  
 -111  
*Nt* AATAAATACGATATAAAACCAATATGAATATTATAAAGACAATAAATAAA-----ATTGTAGCTTTCCACCTCAAG  
 |||||  
 -95  
  
*Os* TGTAGT-----TTTCTTACTTAAATTTAATAATAATTAAATCTAAATATGCCCATTTGGTGTTCCAA  
 |||||  
 -53  
*Nt* TGAATATAGATTATTAGTTCTTCTTTTCATTTA-----ATGCCATTGGTGTTCCAA  
 |||||  
*clpP*

**FIG. 6**



**Saci**

GAGCTCGAATCACCATTCTTTTTCCTTATTTCAATCTGCTCTATCCCTACTTATATGTAATAATCTTTCAATCTATGTATTATTTCAAATCTACGTACTTAAT

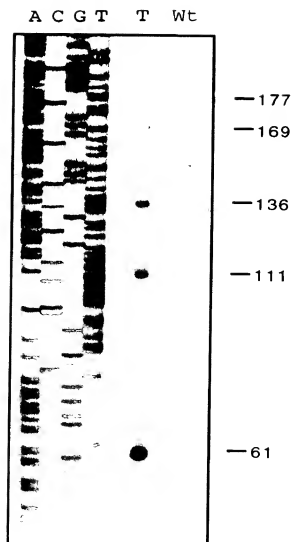
AGAAATCTATAGTATTTCATATAGAAATAAGGAAACAATAAACTGCGGATCTTTCTTTCTCTCCATTCTTACGTTCCCATATTAAAGTGT

RAGTTTTCCTACTAAATTTAAATAATATTAATCTAATATGCCCATTGGTGTTCCAGAGATTCAGTTGTAGGGAGGGATCCATGCG  
 EcoRI  
 2.0  
 NcoI

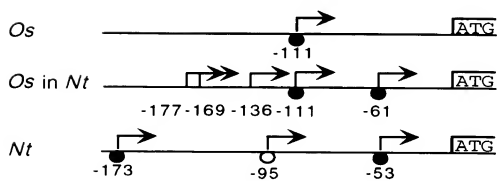
**EcoRI**

**NcoI**

**FIG. 7**



**FIG. 8A**



**FIG. 8B**

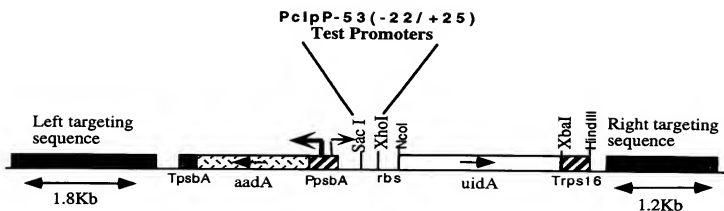


Seq.  
ID

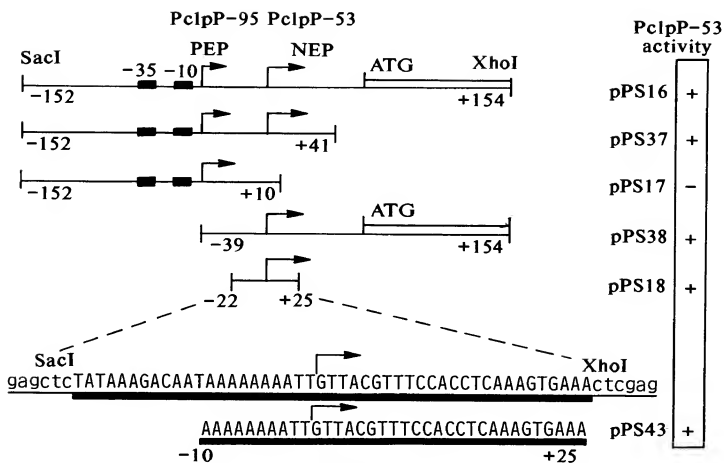
#18	Marchantia	TAAATAAATAGAATTTCATTCTTACGTTTCTTTATTATAG
#19	Pinus	TGTTACACAACCTTCATATACTTTACGTTTCCATATATAG
#20	Spinach	TAAAGACAATAACCGTAATTATTACGTTTCCACATCAAAG
#21	Tobacco	TAAAGACAATAAAAAAATTCTTACGTTTCCACCTCAAAG
#22	Rice	TTCTTTCTTTCTCTTCCATTCTTACGTTTCCATATTAAG
#23	Maize	TTCTTTCTTTCTCTTCCATTCTTACGTTTCCATATTAAG
#24	Arabidopsis	TTAAAAACGAAACCCCATTTTACGTTTCCACCTCAAAG

Marchantia	AAGAGTATT-TTGTITG--TGGAAGAAAAAAAATGCCT
Pinus	TATAGTGCT-TAACITC--TTTCCATTAAAAACAATGCC
Spinach	TGAATAGAGTACTTAATTTTCTTTTCATTTAATGCCT
Tobacco	TGAATATAGTA-TTITAGTTCTTTCTTTTCATTTAATGCCT
Rice	TGTAATTTTCTTACITA--AAITTAATAATATTATCTAATATC
Maize	TGTAATTTTCTTACITA--AAITTAATAATATTATCTAATATC
Arabidopsis	TGAATAGAGAACITTCATTCTCTTTTCTTTTCATTTCATGCCT

FIG. 9



**FIG. 10**



**FIG. II**

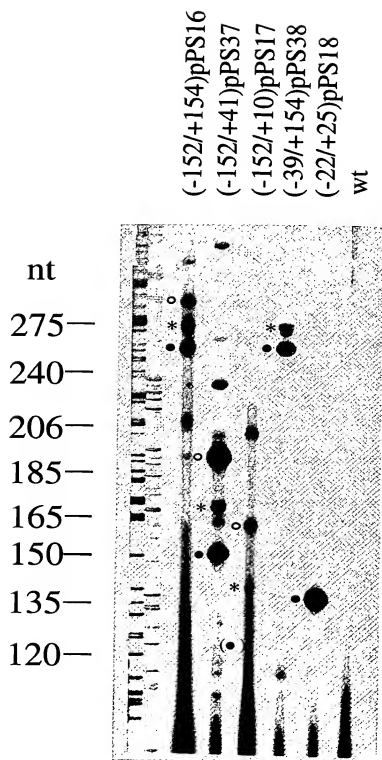


FIG. 12

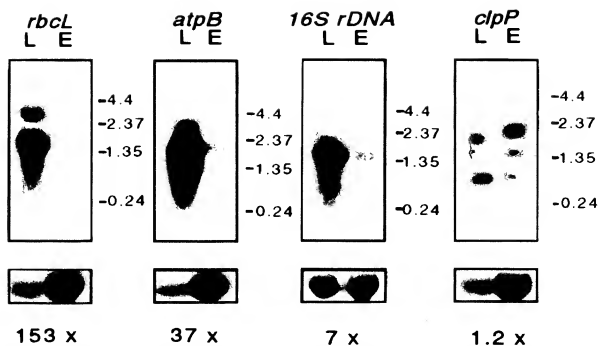
**SacI 74579 (c)**

1 gagctcTATA AAGACAATAA AAAAAATTGT TACGTTTCCA CCTCAAAGTG  
 51 **74533 (c)**  
 AAActcgaga attcagttgt agggagggat ccATGGAACA AAAACTCATT  
 101 TCTGAAGAAG ACTTGgtacg tectgtagaa accccaaccc gtgaaatcaa  
 151 aaaactcgac ggccctgtggg cattcagttc ggatcgcgaa aactgtggaa  
 201 ttgatcagcg ttgggtgggaa agcgcgttac aagaaagccg ggcaattgct  
 251 gtgccaggca gttttaacga tcagttcgcc gatgcagata ttcgtaatta  
 301 tgcgggcaac gtctggtatc agcgcgaagt ctttataaccg aaagggtggg  
 351 caggccagcg tatcgtgctg cgtttcgatg cggtcactca ttacggcaaa  
 401 gtgtgggtca ataatcagga agtgatggag catcaggggc gctatacgcc  
 451 atttgaagcc gatgtcacgc cgtatgttat tgcggggaaa agtgtacgta  
 501 tcaccgtttg tgtgaacaac gaactgaact ggcagactat cccgccggga  
 551 atggtgatta ccgacgaaaa cggcaagaaa aagcagtctt acttccatga  
 601 tttctttaac tatgcgggaa tccatcgag cgtaatgctc tacaccagc  
 651 cgaacacctg ggtggacgat atcacctgg tgacgcatgt cgcgcaagac  
 701 tgtaaccacg cgtctgttga ctggcagggt gtggccaatg gtgatgtcag  
 751 cgttgaactg cgtgatgcgg atcaacaggt ggttgcaact ggacaaggca  
 801 ctacggggac tttgcaagtg gtgaatccgc acctctggca accgggtgaa  
 851 ggttatctct atgaactgtg cgtcacagcc aaaagccaga cagagtgtga  
 901 tatctaccg cttcgcgtcg gcatccggtc agtggcagtg aagggccaac  
 951 agttcctgat taaccacaaa ccgttctact ttactggctt tggtcgtcat  
 1001 gaagatgcgg acttacgtgg caaaggattc gataacgtgc tgatggtgca

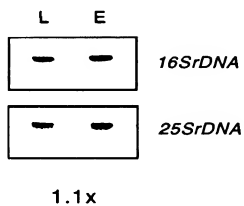
**FIG. 13A**

1051 cgaccacgca ttaatggact ggattggggc caactcctac cgtacctcgc  
 1101 attaccctta cgctgaagag atgctcgact gggcagatga acatggcgc  
 1151 gtggtgattg atgaaactgc tgctgtcggc tttaacctct ctttaggcac  
 1201 tggtttcgaa gcgggcaaca agccgaaaga actgtacagc gaagaggcag  
 1251 tcaacgggga aactcagcaa gcgcacttac aggcgattaa agagctgata  
 1301 gcgcgtgaca aaaaccaccc aagcgtggtg atgtggagta ttgccaacga  
 1351 accggatacc cgtcgcgaag tgcacgggaa tatttcgcca ctggcggaag  
 1401 caacgcgtaa actcgacccg acgcgtccga tcacctgcgt caatgtaatg  
 1451 ttctgcgacg ctcacaccga taccatcagc gatctctttg atgtgctgtg  
 1501 cctgaaccgt tattacggat ggtatgtcca aagcggcgat ttggaaacgg  
 1551 cagagaagggt actggaaaaa gaacttctgg cctggcagga gaaactgcat  
 1601 cagccgatta tcatcaccca atacggcggt gatacggttag ccgggctgca  
 1651 ctcaatgtac accgacatgt ggagtgaaga gtatcagtggt gcatggctgg  
 1701 atatgtatca ccgcgtcttt gatcgcgctca gcgccgtcgt cggatgaacag  
 1751 gtatggaatt tcgccgattt tgcgacctcg caaggcatat tgcgcgttgg  
 1801 cggtaacaag aaagggatct tcaactcgca ccgcaaaccg aagtcggcgg  
 1851 cttttctgct gcaaaaacgc tggactggca tgaacttcgg tgaaaaaccg  
 1901 cagcaggagg gcaaaacaat aatcaacaac tctcctggcg caccatcgct  
 1951 ggctacagcc tcgggtggga attgctctag gGAAATTCAA TTAAGGAAAT  
 2001 AAATTAAGGA AATACAAAAA GGGGGGTAGT CATTTGTATA TAACTTTGTA  
 2051 TGACTTTTCT CTTCTATTTT TTTGTATTTC CTCCTTTTCC TTTTCTATTT  
 2101 GTATTTTTTT ATCATTGCTT CCATTGAATT aatcgaagct + HindIII

FIG. 13B



**FIG. 14**



**FIG 15**

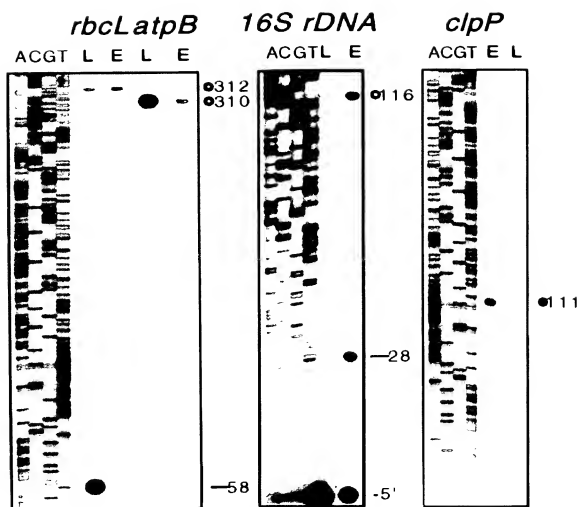


FIG. 16

# 16SrDNA



FIG. 17A

# clpP

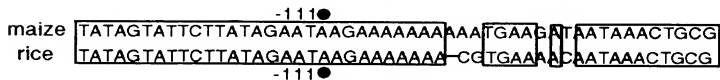


FIG. 17B